

The Largest Circulation in Western Pennsylvania—1632 Copies Weekly.

MONTHS, SEPTEMBER 23, 1852.

**Soil Best Adapted for the Culture of Wheat.**

All of our commonly cultivated plants are composed precisely of the same elements, the only chemical difference between the vast varieties of plants being the relative proportion in which the same elements unite to form the plant; so that if a soil will produce any one of our cultivated crops, it possesses the capacity, as far as the elements of plants are concerned, of growing any other crop, to some extent. In judging of the best kind of plants to be cultivated on any particular soil, therefore, we have to look to the relative proportion in which the elements of plants exist in the soil, and adopt that class of plants which requires most of the particular elements in which the soil abounds, or requires least of those in which it is deficient. This would seem to be a common sense view to the subject, yet there are many other circumstances often overlooked, which, if considered, would materially affect our conclusions. In a large crop of corn there are all the elements which a large crop of wheat contains, and also in larger quantities, yet there thousands of acres of land that produce immense crops of corn that cannot be profitably cultivated with wheat. A good wheat soil will always produce a good crop of corn, if properly tilled, while much of our best corn land will not produce wheat under ordinary culture. The cause of this great difference is not, we have shown, owing to a deficiency in the soil of any element of the wheat plant; for the requirements of the corn crop are identical in kind and greater in quantity, than that of wheat. It must, therefore, be owing either to the manure in which the various elements are assimilated by the plant, or the existence in the soil of some substance, which though sufficient if it may exist in a corn soil for the actual demands of the wheat crop, yet, from the different habit of growth of the two plants, a much larger quantity may be necessary for the performance of the healthy functions of the wheat than of the corn plant. This substance is most probably clay; for all soils which experience proves to be best adapted to wheat culture, abound with this substance and lime. The reason why clay is so much more necessary and beneficial for wheat than for corn, is not clearly understood. In light soil the wheat plant is found to throw out its lateral roots very near the surface, while in a clayey one it is more inclined to tap, and the lateral fibrous roots are at greater depth. In the former case the plant would be more exposed to the influence of frost and thaw, and would be more likely to heave out in the spring, while in the latter it would be better able to stand all the influences of cold and heat, from the roots being at a greater depth, and having a firmer hold of the soil. It is therefore probable that one of the benefits of the wheat plant derives from clay, it is preventing the extension of fibrous surface roots, and forcing the plant to throw out a single tap root, which extends much deeper and takes a firmer hold of the soil.

If this is a right view of the subject, we should loosen the subsoil of all our wheat fields, by deep plowing and subsoiling, while on soils rather too light for wheat, every possible means should be used to render the surface soil compact and firm. Treading the wheat in the fall with sheep has been practiced with advantage; but in doing so, caution is necessary to prevent serious injury in case winter immediately sets in. On all soils which produce good crops of corn, we believe wheat may be grown, so as much as there is nothing lacking which enters into the wheat plant, and all that is necessary is to impair to the soil a certain degree of texture and tenacity, which all good natural wheat soils possess. For this purpose, heavy roller and other mechanical means must be employed; and a presser something similar to Cross's Cold Crusher, of which we have often spoken, would be of great benefit. We do not wish to be understood to say that consolidation is the only thing necessary in all cases to ensure a wheat crop on soil where corn, barley, and oats flourish; for the land may in winter be so wet as to destroy the plant; yet if drained, and means be taken to render the surface compact, we believe such soils would produce first-rate crops of wheat. *Genesee Farmer.*

**Leached Ashes on Wheat.** Whatever difference of opinion there may be respecting the particular ingredients of which the fertilizing power of leached ashes are owing, nearly all agree that they are a valuable manure for the wheat crop. And as there are different parts of the country, of ashes from whence old leached ashes can be obtained at a mere nominal price, we are surprised that they are not much more extensively used than they are. The good effects of 100 to 300 bushels of old leached ashes per acre are most decided on all light wheat soils, and are visible often for years after their application. This prolonged benefit is probably derived from the line of which the leached ashes contain some 30 per cent. It is not impossible, however, that leached ashes contain the double salt of nitrate of ammonia and soda, which Prof. Way found was the real agent of soils in removing ammonia and other fertilizers, and that therefore by adding leached ashes we add ammonia, or at least the means of obtaining it from the atmosphere in the most available form for the wheat plant; and that it is this alkali that so much benefits the crop, and not the potash and soda which may be left undissolved from the ashes. If this is the case, the older the leached ashes are, the better—the more they have been exposed to rain and the air, the more ammonia will they contain, and the more good will they do to the wheat crop. And it would indicate that on all our wheat soils leached ashes would do more good than the unleached ones, from the fact that ammonia is also much more necessary as a manure for wheat than the alkalies potash and soda, which are washed out in leaching.

These views, however, are at present some what hypothetical and further experiments are necessary to confirm or refute them; yet the fact that leached ashes are the first rate fertilizer, remains still true; though we can not decidedly account for their good effect, and we would recommend all farmers who can obtain them, to do so, and apply them to their light soils previous to sowing wheat this month.

**Improved Breeds of Cattle in the West.** No country in the world is better adapted to the raising of cattle and sheep than our own great Western States, where lands are naturally plentiful and cheap; but of unequalled fertility yielding rich natural grasses in greater abundance. This undoubted fertility of the soil for grazing purposes, the fine dry climate, the cheapness of land, and the high price of labor to cultivate it, are the chief causes of the success of the cattle and sheep business in the sub-tropical West.

The editor of the *Democrat* has written a full article on the subject, giving the results of his researches, and the improved breeds of cattle in the West. The author of the article is a man of great knowledge and experience, and his conclusions are well founded. He states that the best kind of cattle to be cultivated on any particular soil, therefore, we have to look to the relative proportion in which the elements of plants exist in the soil, and adopt that class of plants which requires most of the particular elements in which the soil abounds, or requires least of those in which it is deficient. This would seem to be a common sense view to the subject, yet there are many other circumstances often overlooked, which, if considered, would materially affect our conclusions. In a large crop of corn there are all the elements which a large crop of wheat contains, and also in larger quantities, yet there thousands of acres of land that produce immense crops of corn that cannot be profitably cultivated with wheat. A good wheat soil will always produce a good crop of corn, if properly tilled, while much of our best corn land will not produce wheat under ordinary culture. The cause of this great difference is not, we have shown, owing to a deficiency in the soil of any element of the wheat plant; for the requirements of the corn crop are identical in kind and greater in quantity, than that of wheat. It must, therefore, be owing either to the manure in which the various elements are assimilated by the plant, or the existence in the soil of some substance, which though sufficient if it may exist in a corn soil for the actual demands of the wheat crop, yet, from the different habit of growth of the two plants, a much larger quantity may be necessary for the performance of the healthy functions of the wheat than of the corn plant. This substance is most probably clay; for all soils which experience proves to be best adapted to wheat culture, abound with this substance and lime. The reason why clay is so much more necessary and beneficial for wheat than for corn, is not clearly understood. In light soil the wheat plant is found to throw out its lateral roots very near the surface, while in a clayey one it is more inclined to tap, and the lateral fibrous roots are at greater depth. In the former case the plant would be more exposed to the influence of frost and thaw, and would be more likely to heave out in the spring, while in the latter it would be better able to stand all the influences of cold and heat, from the roots being at a greater depth, and having a firmer hold of the soil. It is therefore probable that one of the benefits of the wheat plant derives from clay, it is preventing the extension of fibrous surface roots, and forcing the plant to throw out a single tap root, which extends much deeper and takes a firmer hold of the soil.

**UNCLE TOM'S CABIN.** AS IT IS.

**Light, More Light!** A BOOK FOR THE TIMES. EXTINGUISHED.

**Life at the South**

**Read and be Convinced.**

**The Editor of the *Democrat* has December 22—**

**Dr. Hooper's Celebrated German Bitter.** For the cure of Jaundice, Dyspepsia, Obesity, or Nervous Debility, Diseases of the Kidneys.

**Dr. Hooper's celebrated German Bitter.** Prepared by Dr. C. M. Jackson, at the German Medicine store, 120 Arch street, Philadelphia.

**Philosophical.**

**Hooper's Bitter.** A new and improved Remedy for Liver Complaint.

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